

CHANGES IN THE CLAIMS:

Claim Listing:

1. (Currently Amended) In a communication network having a plurality of subnetworks, a portable data collection terminal comprising:

a base module ~~containing~~comprising a base processing unit operable on data in accordance with a set of communication software routines; and

a communication module comprising:

a first communication transceiver ~~having~~comprising a first operating characteristic to conduct data communications on a first of the plurality of subnetworks;

a second communication transceiver ~~having~~comprising a second operating characteristic to conduct data communications on a second of the plurality of subnetworks, the second operating characteristic being different from the first operating characteristic and the second subnetwork being different from the first subnetwork; and

a communication processor ~~connected~~coupled between the base processing unit and the first and second communication transceivers for converting data received by the first and second communication transceivers to a format for processing by the base processing unit in accordance with the set of communicating software routines and for converting data processed by the base processing unit to a format for transmission by a selected one of the first and second communication transceivers, thereby isolating the base processing unit

from differences between the first and second operating characteristics of the first and second communication transceivers.

2. (Currently Amended) The portable data collection terminal of claim 1 wherein the communication processor comprises:

a first processing unit ~~connected~~coupled between the base processing unit and the first communication transceiver for converting data received by the first communication transceiver to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by the first communication transceiver, and

a second processing unit ~~connected~~coupled between the base processing unit and the second communication transceiver for converting data received by the second communication transceiver to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by the second communication transceiver.

3. (Previously Presented) The portable data collection terminal of claim 1 wherein the first communication transceiver operates in a wired subnetwork and the second communication transceiver operates in a wireless subnetwork.

4. (Previously Presented) The portable data collection terminal of claim 3 wherein the wireless subnetwork comprises a backup network in the event of a failure in the wired subnetwork.

5. (Previously Presented) The portable data collection terminal of claim 4 wherein the communication processor includes test means for testing the wired subnetwork.

6. (Previously Presented) The portable data collection terminal of claim 5 wherein the test means includes means for initiating a test communication by the second communication transceiver and means responsive to the absence of receipt of a reply test communication by the first communication transceiver following initiation of a test communication by the second communication transceiver for conducting data communications with the second communication transceiver.

7. (Previously Presented) The portable data collection terminal of claim 6 wherein the test means further includes means responsive to receipt of a test communication by the second communication transceiver for initiating a test communication by the first communication transceiver.

8. (Previously Presented) The portable data collection terminal of claim 1 wherein the communication module is housed in a PCMCIA card.

9. (Previously Presented) The portable data collection terminal of claim 1 wherein the communication processor further includes means for relaying communication received by one of its first and second communication transceivers for retransmission by the other of its second and first communications transceivers.

10. (Currently Amended) In the communication network of claim 1 including a computer and a plurality of portable data collection terminals each ~~connected~~coupled to the plurality of subnetworks and wherein at least one of the communication transceivers of each of the portable data collection terminals operates in a wireless subnetwork, the

communication processor of each data collection terminal being responsive to an out-of-range condition for the respective portable data collection terminal to initiate data communications by its said one communication transceiver to another of the plurality of portable data collection terminals, the other of the data collection terminals relaying data communications between the computer and the first-named data collection terminal.

11. (Currently Amended) A portable data collection terminal comprising:

a base module ~~containing~~comprising a base processing unit operable on data in accordance with a set of communication software routines; and

a communication module comprising:

a first communication transceiver ~~having~~comprising a first operating characteristic for conducting data communications on a first subnetwork;

a second communication transceiver ~~having~~comprising a second operating characteristic for conducting data communications on a second subnetwork, the second operating characteristic being different from the first operating characteristic and the second subnetwork being different from the first subnetwork; and

a communication processor ~~connected~~coupled between the base processing unit and the first and second communication transceivers for converting data received by the first and second communication transceivers to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by a selected one of the first and second communication transceivers, thereby isolating the base processing unit

from differences between the first and second operating characteristics of the first and second communication transceivers.

12. (Currently Amended) The portable data collection terminal of claim 11 wherein the communication processor comprises:

a first processing unit ~~connected~~coupled between the base processing unit and the first communication transceiver for converting data received by the first communication transceiver to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by the first communication transceiver, and

a second processing unit ~~connected~~coupled between the base processing unit and the second communication transceiver for converting data received by the second communication transceiver to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by the second communication transceiver.

13. (Currently Amended) The portable data collection terminal of claim 11 wherein the first communication transceiver iscomprises a wired transceiver and the second communication transceiver iscomprises a wireless transceiver.

14. (Previously Presented) The portable data collection terminal of claim 13 wherein the communication processor includes test means, the test means including means for initiating a test communication by the second communication transceiver and means responsive to the absence of receipt of a reply test communication by the first

communication transceiver following initiation of a test communication by the second communication transceiver for conducting data communications with the second communication transceiver.

15. (Previously Presented) The portable data collection terminal of claim 14 wherein the test means further includes means responsive to receipt of a test communication by the second communication transceiver for initiating a test communication by the first communication transceiver.

16. (Previously Presented) The portable data collection terminal of claim 11 wherein the communication module is housed in a PCMCIA card.

17. (Previously Presented) The portable data collection terminal of claim 11 wherein the communication processor further includes means for relaying communication received by one of its first and second communication transceivers for retransmission by the other of its second and first communication transceivers.

18. (Currently Amended) A communication module for use with a portable data terminal, comprising:

a first communication transceiver ~~having~~comprising a first operating characteristic for conducting data communications on a first subnetwork;

a second communication transceiver ~~having~~comprising a second operating characteristic for conducting data communications on a second subnetwork, the second operating characteristic being different from the first operating characteristic and the second subnetwork being different from the first subnetwork; and

a communication processor ~~connected~~coupled to the first and second communication transceivers for converting data received by the first and second communication transceivers to a predetermined format and for converting data in a predetermined format to a format for transmission by a selected one of the first and second communication transceivers.

19. (Previously Presented) The communication module of claim 18 wherein the communication processor comprises:

a first processing unit for converting data received by the first communication transceiver to a predetermined format and for converting data to a predetermined format for transmission by the first communication transceiver, and
a second processing unit for converting data received by the second communication transceiver to a predetermined format and for converting data to a predetermined format for transmission by the second communication transceiver.

20. (Currently Amended) The communication module of claim 18 wherein the first communication transceiver ~~is~~comprises a wired transceiver and the second communication transceiver ~~is~~comprises a wireless transceiver.

21. (Previously Presented) The communication module of claim 20 wherein the communication processor includes test means, the test means including means for initiating a test communication by the second communication transceiver and means responsive to the absence of receipt of a reply test communication by the first communication transceiver following initiation of a test communication by the second

communication transceiver for conducting data communications with the second communication transceiver.

22. (Previously Presented) The communication module of claim 21 wherein the test means further includes means responsive to receipt of a test communication by the second communication transceiver for initiating a test communication by the first communication transceiver.

23. (Previously Presented) The communication module of claim 18 further characterized by being housed in a PCMCIA card.

24. (Previously Presented) The communication module of claim 18 wherein the communication processor further includes means for relaying communication received by one of its first and second communication transceivers for retransmission by the other of its second and first communication transceivers.

25. (New) A communication module for use with a data terminal comprising:
a first communication transceiver comprising first operating characteristics used to conduct data communications on a first subnetwork;

a second communication transceiver comprising second operating characteristics used to conduct communications on a second subnetwork, the second operating characteristics being different from the first operating characteristics and the second subnetwork being different from the first subnetwork; and

a communication processor coupled to the first and second communication transceivers that converts data received by the first and second communication transceivers to a predetermined format and that converts data in the predetermined

format to a format for transmission by a selected one of the first and second transceivers.

26. (New) The communication module of claim 25, the communication processor comprising:

a first processing unit that converts data received by the first communication transceiver to the predetermined format and that converts data to a predetermined format in preparation for transmission by the first communication transceiver; and

a second processing unit that converts data received by the second communication transceiver to a predetermined format and that converts data to a predetermined format in preparation for transmission by the second communication transceiver.

27. (New) The communication module of claim 25, the first communication transceiver comprising a wired transceiver and the second communication transceiver comprising a wireless transceiver.

28. (New) The communication module of claim 27, the communication processor further comprising a tester that initiates a test communication by the second communication transceiver and that responds to the absence of receipt of a reply test communication by the first communication transceiver following initiation of the test communication by the second communication transceiver by conducting data communications with the second communication transceiver.

29. (New) The communication module of claim 28, the tester responding to a receipt of a test communication by the second communication transceiver by initiating a test communication by the first transceiver.

30. (New) The communication module of claim 25, the first communication processor, the second communication processor and the communication processor housed in a PCMCIA card.

31. (New) The communication module of claim 25, the communication processor further relaying communications received by one of its first and second communication transceivers for retransmission by the other of its second and first communication transceivers.

32. (New) In a communication network having a plurality of subnetworks, base apparatus comprising a base processing unit operable on data in accordance with a set of communication software routines; said base apparatus including a communication system comprising:

- a first communication transceiver comprising a first operating characteristic to conduct data communications on a first of the plurality of subnetworks;

- a second communication transceiver comprising a second operating characteristic to conduct data communications on a second of the plurality of subnetworks, the second operating characteristic being different from the first operating characteristic and the second subnetwork being different from the first subnetwork; and

- a communication processor coupled between the base processing unit and the first and second communication transceivers for converting data received by the first and second communication transceivers to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by a selected one of the first and second communication transceivers, thereby isolating the base processing unit from differences between the first and second operating characteristics of the first and second communication transceivers.

33. (New) In the communication network of claim 32 wherein the communication processor comprises:

- a first processing unit coupled between the base processing unit and the first communication transceiver for converting data received by the first

communication transceiver to a format for processing by the base processing unit in accordance with the set of communication software processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by the first communication transceiver, and

a second processing unit coupled between the base processing unit and the second communication transceiver for converting data received by the second communication transceiver to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by the second communication transceiver.

34. (New) In the communication network of claim 32, wherein the first communication transceiver operates in a wired subnetwork and the second communication transceiver operates in a wireless subnetwork.

35. (New) In the communication network of claim 34, wherein the wireless subnetwork comprises a backup network in the event of a failure in the wired subnetwork.

36. (New) In the communication network of claim 35, wherein the communication processor includes test means for testing the wired subnetwork.

37. (New) In the communication network of claim 36, wherein the test means includes means for initiating a test communication by the second communication transceiver and means responsive to the absence of receipt of a reply test communication by the first communication transceiver following initiation of a test communication by the second communication transceiver for conducting data communications with the second communication transceiver.

38. (New) In the communication network of claim 37, wherein the test means further includes means responsive to receipt of a test communication by the second communication transceiver for initiating a test communication by the first communication transceiver.

39. (New) In the communication network of claim 32, wherein the communication system is housed in a PCMCIA card.

40. (New) In a communication network of claim 32, wherein the communication processor relays communication received by one of its first and second communication transceivers for retransmission by the other of its second and first communications transceivers.

41. (New) In a communication network of claim 32 including a computer and a plurality of portable data collection terminals, each comprising said base apparatus and said communication system, and each coupled to the plurality of subnetworks and wherein at least one of the communication transceivers of each of the portable data collection terminal operates in a wireless subnetwork, the communication processor of each data collection terminal being responsive to an out-of-range condition for the respective portable data collection terminal to initiate data communications by its said one communication transceiver to another of the plurality of portable data collection terminals, the other of the data collection terminals relaying data communications between the computer and the first-named data collection terminal.

42. (New) A communication system comprising:

- a base apparatus comprising a base processing unit operable on data in accordance with a set of communication software routines; and a communication system comprising:

- a first communication transceiver comprising a first operating characteristic for conducting data communications on a first subnetwork:

- a second communication transceiver comprising a second operating characteristic for conducting data communications on a second subnetwork, the second operating characteristic being different from the first subnetwork; and

- a communication processor coupled between the base processing unit and the first and second communication transceivers for converting data received by the first and second communication transceivers to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by a selected one of the first and second communication transceivers, thereby isolating the base processing unit from differences between the first and second communication transceivers.

43. (New) The communication system of claim 42 wherein the communication processor comprises:

a first processing unit coupled between the base processing unit and the first communication transceiver for converting data received by the first communication transceiver to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by the first communication transceiver, and

a second processing unit coupled between the base processing unit and the second communication transceiver for converting data received by the second communication transceiver to a format for processing by the base processing unit in accordance with the set of communication software routines and for converting data processed by the base processing unit to a format for transmission by the second communication transceiver.

44. (New) The communication system of claim 42 wherein the first communication transceiver comprises a wired transceiver and the second communication transceiver comprises a wireless transceiver.

45. (New) The communication system of claim 44 wherein the communication processor includes test means, the test means including means for initiating a test communication by the second communication transceiver and means responsive to the absence of receipt of a reply test communication by the first communication transceiver following initiation of test communication by the second communication transceiver for conducting data communications with the second communication transceiver.

46. (New) The communication system of claim 45 wherein the test means further includes means responsive to receipt of a test communication by the second communication transceiver for initiating a test communication by the first communication transceiver.

47. (New) The communication system of claim 42 wherein the communication system is housed in a PCMCIA card.

48. (New) The communication system of claim 42 wherein the communication processor further includes means for relaying communication received by one of its first and second communication transceivers for retransmission by the other of its second and first communication transceivers.

49. (New) Apparatus comprising a base housing comprising a removable module system including a first wireless radio transceiver comprising a first operating characteristic for conducting wireless data communications; and a second wireless radio transceiver comprising a second operating characteristic for conducting wireless data communications, the second operating characteristic being different from the first operating characteristic.